

**AN EXAMINATION OF THE SIGNIFICANCE OF MATERIALS
IN CREATION OF ARCHITECTURAL EXPRESSION**

University of Moratuwa, Sri Lanka.
A Dissertation submitted to University of Moratuwa
As a Partial Fulfillment of the Requirements for the Degree of
Master of Science in Architecture.

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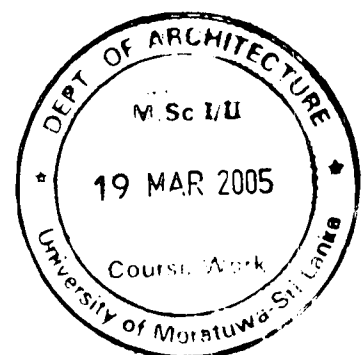
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DECLARATION

I Declaration that this dissertation presented my own work, except where due acknowledgement is made, and that is has not been previously included in a thesis dissertation or report submitted to this university or any other institution for a degree diploma or any other qualification.

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ABSTRACT

“There is no effect of form which the effect of material could not enhance”

George S. T

In as much as the physical makeup (characteristics) of the human body control the movements of a anger , the question of the amount /availability of building materials is among the most powerful factors that determine the kind of form , that a built form should take. In education, it can be said, that this phenomenon has played a per- eminent role, in building activities, form the earliest time to the contemporary, modern times.

It is most important, that a built form and a choice of materials should have a close relationship; as such an arrangement will facilitate the full realization of the expectation of a designer through the use of materials. Such success and standards will require the use of materials, in a way that helps to bring out its native, intrinsic and hitherto untapped possibilities.

An important point to note , is that whilst the resources of early builders covered a limited selection of simple materials, the architects and builders of modern times , have been endowed with a virtual glut of resources various choices , combinations , innovations , synthesis, etc, that could be used for building activity.

An equally important point to note , is that the remarkable expansion , in material resources is not a phenomenon , that has grown of its own accord , but is actually a positive response to a stupendous and a ceaseless increase in building activities housing ,commercial, industrial , that has taken place , the would over ever since , the expansion of economic activities following on the industrial revolution in Europe in the 15th century.

Concurrently cognizance , has to be given to the supplementary factor, i.e. that the boon , in the production of new and innovative materials , has actually, served as a strong stimulus to the problems on the score of as weather the full rang of new materials/ sophisticated material would really meet an actual builders consumer demand or not.

Not withstanding the above , the principal point to note, is that the plethora of new material and technology , that has entered the market, over the years has proved a

effective means of aiding new built forms and appurtenant spaces to be completed to comply with contemporary need and ideas. The advent of the new material, technology, such as the steel, concrete and more significantly. Prefabricated and pre stress concrete contribute to complete revolution in the building industrial with the completion of bigger , higher , stronger and more fascinating built forms , to meet both housing and commercial needs . They opened the way to dramatic changes in architectural disciplines, styles and the character of urban and city landscape.

It is also important to state that this unprecedented growth, new trends and dimension in the use of materials and technology also made a sizeable contribution to the generation of the desired.

Architectural expression and the ensuring of the user comfortable environment in the built forms that were completed in the contemporary world.

That this synopsis on the topic of dissertation "an examination of significance of materials in creation of architecture expression" can not be considered as completed without a brief comment on three elements/ components meaning , materials and expression are inextricably and inseparably intertwined and it is not possible to attach any real significance or position to them, special in the context of their relationship with the user and people , unless they exit and operate together in unison. However it is correct, at the same time to take note of the fact, that the meaning element is the key and leading one among the three. It may be likened to the source or spring of the built form out of which the other elements flow and form which they derived strength and vitality of course taking this view does not imply, that the other two elements are not significant and act as essential agents for strengthen the meaning element, making it more meaningful and conveying it is message to its user/ observe and vice versa.

These factors collectively help to throw light and establish the magnitude and depth of the subject that have undertaken, for the purpose of this dissertation. None the less regard it as an exciting challenge to probe in to a field that is both complex and rich form which certain valuable impressions and conclusion could be drawn.

In the circumstances, it is sincere hope that this dissertation, the diverse ideas and

observations, set out in it, will be found acceptable, simulation and thought – provoking to the learned body of persons who will best on honor of reading appreciating and evaluating it.



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INTRODUCTION

INTRODUCTION

Observation /the issue identified

The architecture is not recent evolution. Since the beginning of the civilization the existence of architecture has been great need of man. And as a functional art it has been and is being given a wide range of definition.

“It is evident the two fold essence of the architectural phenomenon- constituted as it is by a physical structure obeying objective requirements and an aesthetic aspect directed toward producing an emotion of a subjective nature –places architecture in a field completely apart from other art”.Nervi.P.L,(1915)

“Architecture is a thing of art a phenomenon of the emotion, lying outside questions of construction and beyond them. The purpose of construction is to make things hold together; of architecture to move us. Architectural emotion exists when the work rings within us in tune with a universe whose laws we obey recognize and respect. When certain harmonies have been attained, the work captures us. Architecture is a matter of “harmonies” it is a pure creation of the spirit”.Le Corbustre (1927)

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Which ever the way the architecture is defined and described the essence is that, the architecture is one which is created by the human organisms as an expression of themselves and their aspirations.

With a view to achieving this end, an architectural product has to a truthful picture of it, the truth about it self and circumstances of its creation. This process of communicating particulars and information about the product come with the meaning of the term “expression”.

Expression may be regarded as the qualitative attribute of a building and it is through this phenomenon that a building is able to communicate and evoke meaningful emotions in people. Thus in its position a qualitative attribute it contributes the intellectual component of a building purpose and factors such as context, user activity pattern and

higher purpose play a significant role in generating such intellectual input. Other factors such as materials technology and climate also play a significant role as modifying factors. Therefore architectural product essentially expresses, contains and tries to conserve the essence of this truth by using appropriate technology as a media.

On the basis of the above it can be argued that proper balancing of use of materials and technology as a media will help in expressing the true meaning of a built form and evoke describe emotional responses among people. Therefore material and technology is among the most powerful factor that determines the kind of form that a building should take.

Possible causes for the above phenomenon.

Currently the capacity of buildings to evoke the emotions in an observer is becoming very weak. This is a terrible tragedy; science the more man becomes developed the more he relies on his built environment to stimulate him.

One of the main reasons seem to be that due to developments in industrial/services spheres designers are forced to respond to or use new materials and technology that seem to be produced every day and put in to the market. This situation is reflected in the practice prevalent to day, each component of a building system seeking to overshadow the overall purpose by giving disproportionate emphasis to the limited expression generated by them, as against the fuller expression generated by combined operation. This trend is reflected in the use of material and technology in building work as well, with the stress on the expression generated by such material even at the sacrifice of or in ignorance of the overall expressional objectives of a building.

This phenomenon is robbing most of contemporary architecture of more relevant expression. But designer seem to be mesmerized to a degree that they do not seem to see the damage that is being done. The incorrect way of using materials and technology in a building strongly expressed by professional as well as lay people.

“It is as the urge to create the world anew by means of structures which had the lightness and tenuousness of pure thought had given way to the desire to create

solid hideouts of the human spirit in a world of uncertainty and change, each one in itself a microcosm of an ideal world". Alan Coloquan (1981)

"This was true of the modern movements as it was of any other period of architecture. In the new technology was an idea rather than a fact. It becomes part of its content as a work of art and not merely or principally a means to its construction. however much the materials they used were conceived to be products of machine techniques these architects never regarded them as" ready made". But adapted them to a preconceived plastic form, even through this form it self was triggered by a notion of machine technology. One might quote as an example Le Corbusier's use of the curtain wall, in which the glazing has are so profiled and proportioned as to preserve the integrity of the plane and to create the feeling a light skin stretched over the entire surface of the building." Alan Coloquan (1981)

"Architecture belongs to a world of symbolic forms in which every aspect of building is presented metaphorically, not literally. There is logic of forms, but it is not identical with the logic which comes into play in the solution of the emphatically problems of construction." Alan Coloquan (1981)



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"The impact of new materials and technology on architectural expression" is very important.

The architects and designers who are actively involved in field of architecture should necessarily be aware of this trend prevailing in current architecture.

Intention of the Study

Since the world communicates and exists through symbolic entities each one and each place bears an identity or expression of its own.

Therefore maintaining the expression of a thing or a place is of vital importance for when the expression is altered, destroyed the essential bond between the place or a thing and people is subject to be broken, resulting in a subsequent diminutions of the meaning of that architectural product. Since the materials and technology itself is accepted as the

media for achieving this final entity, the proper handling of it to maintain final expression is vital.

Scope and Limitations.

Identifications and establishment of the,

1. Notation of inherent expression of a built form, the generators and modifiers of expression, the mode and the media of expression.
2. The nature and the manner of the influence of the materials and technology of the expression of a built form: and the role of them as a media in achieving the meaningful expression

Method of study.

This study will be based on a theoretical basis enhanced by more practical situation.

First established theoretically, and then the validity and acceptability of them are illustrated with actual examples. The establish fact of this part is that the use of materials and technology in the creation of the appropriate expression contribute as a same time as a modifier but not as a generator.

Next it would trace out the architectural history to show this fact, changes through time with the development of material and technology and the way it impact on architectural expression.

Finally it would examine some selected example in order to see clearly this impact on building expression.